

## **Appendix D      TARGETS FILES FOR PROPOSED NEW ROUTINGS**

# HAWKZ RNAV VER 4.2

## Point Of Contact

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## TARGETS Distribution Package

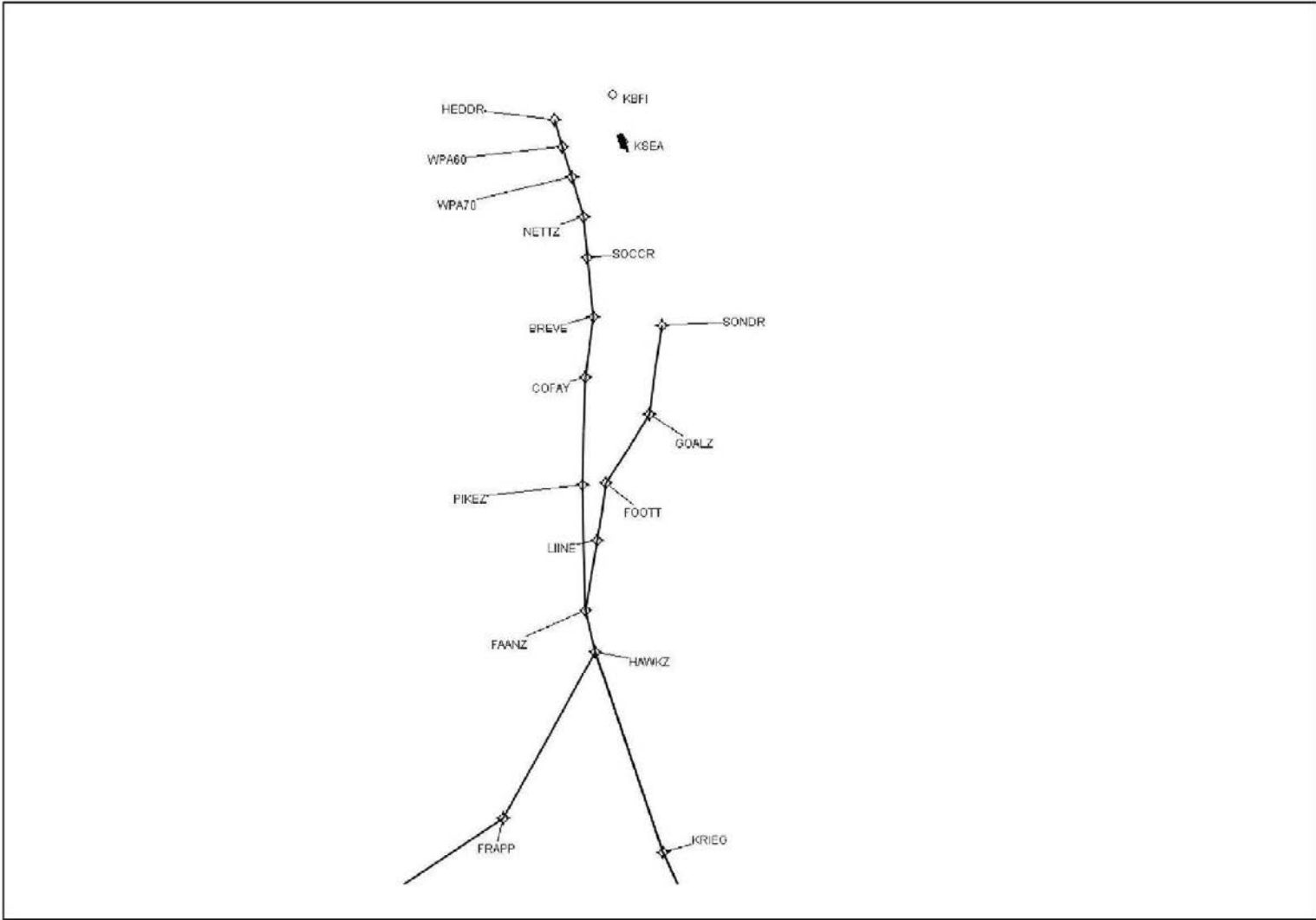
Version: TARGETS 4.8 (January 7, 2012)

Date: Mon Apr 30 11:39:40 EDT 2012

HAWKZ RNAV VER 4.2

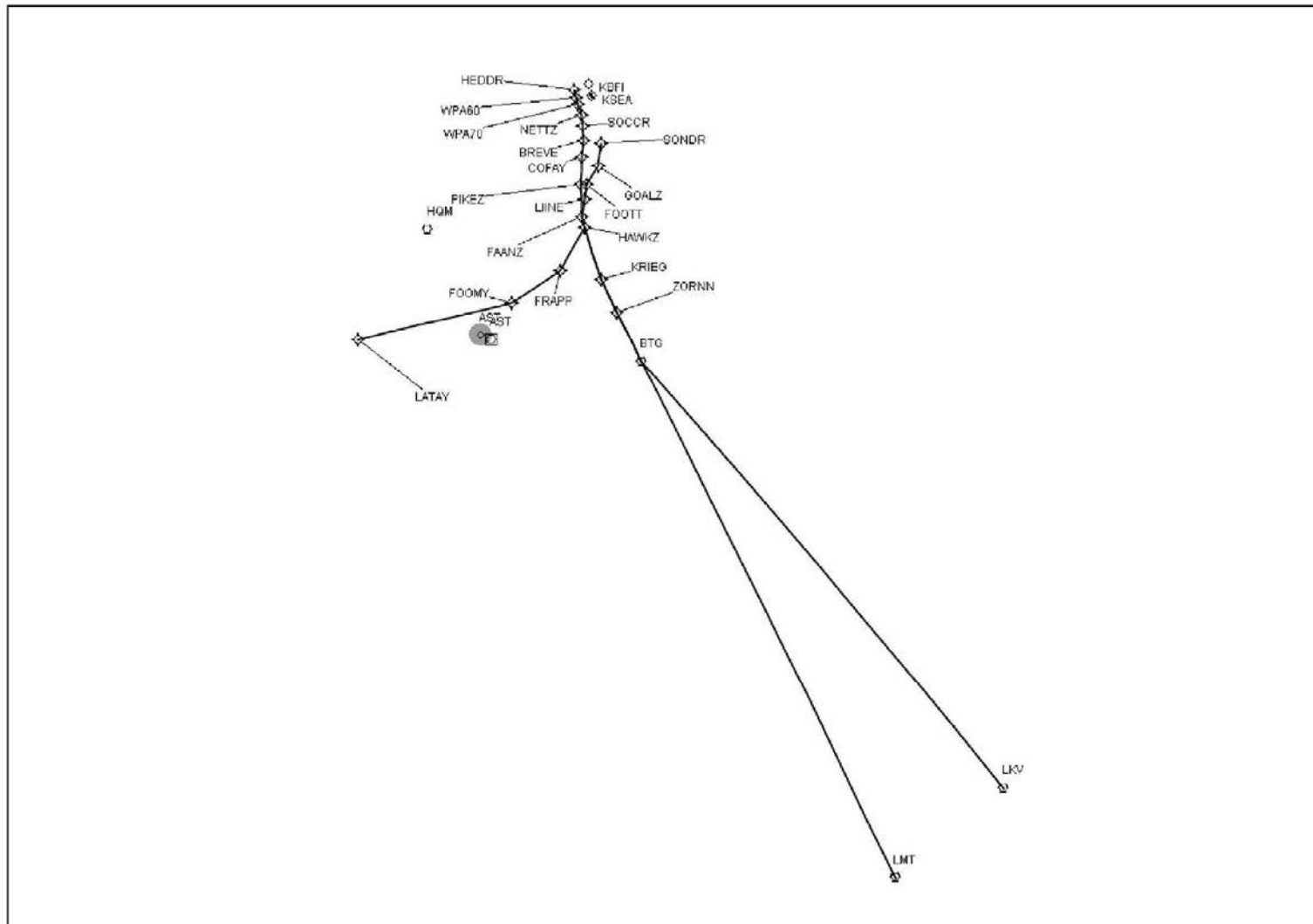
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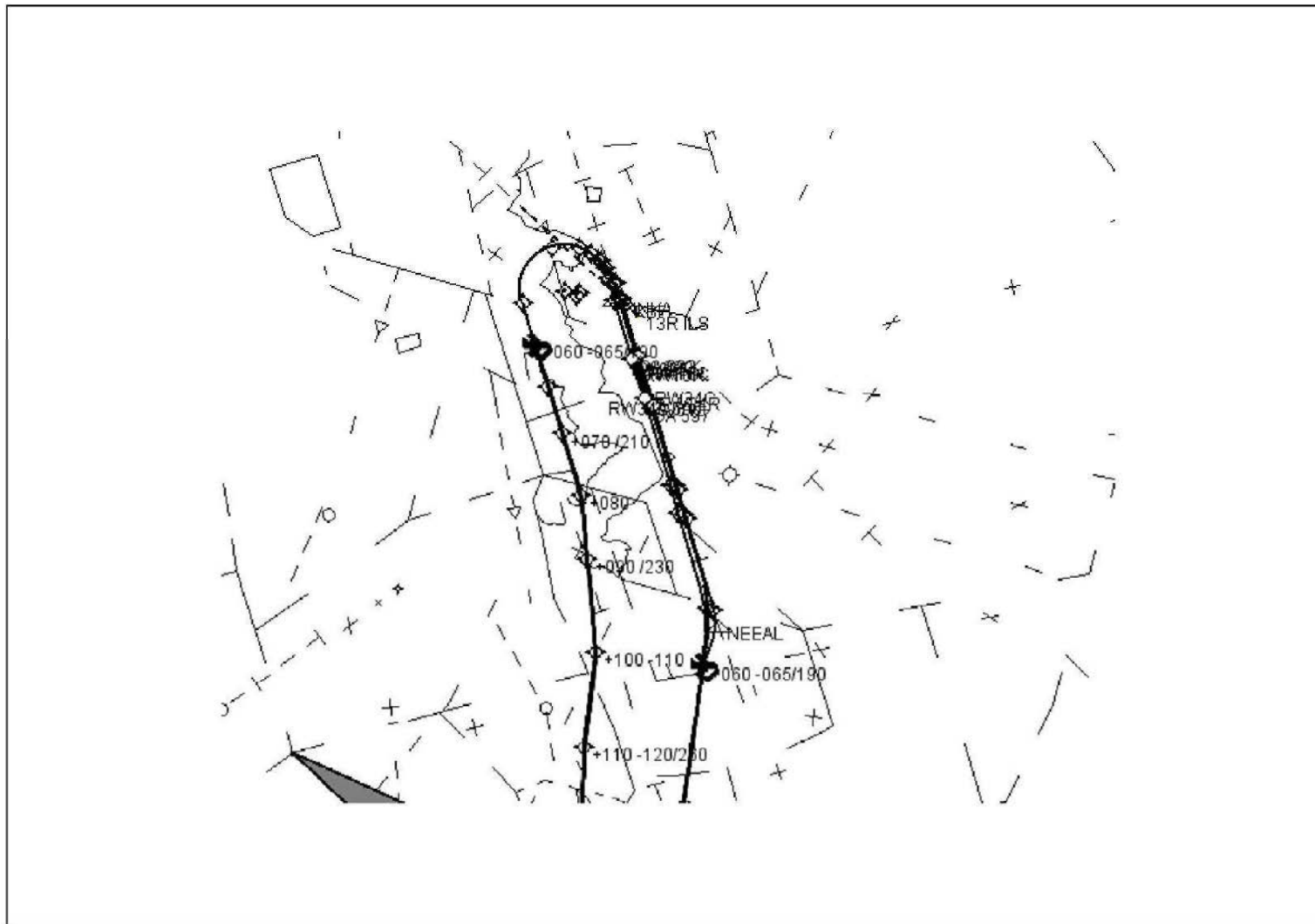
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En Route Transition Data - LATAY														
DB	Waypoint	Distance	Leg	FO/FB	Latitude	Longitude	TC	MC	Altitude	Speed	MEA	Arc Center Lat (D° M' S.ss'')	Arc Center Lon (D° M' S.ss'')	Arc Radius (NM)
	LATAY WP		IF		N46 24 28.28	W125 04 18.52								
	FOOMY WP	61.36	TF	FB	N46 20 38.97	W123 35 51.24	93.04	76.04	+25000	280				
	FRAPP WP	22.92	TF	FB	N46 26 56.29	W123 04 00.92	73.87	56.87						
	HAWKZ WP	18.87	TF	FB	N46 39 57.37	W122 44 13.20	46.25	29.25						
En Route Transition Data - LKV														
DB	Waypoint	Distance	Leg	FO/FB	Latitude	Longitude	TC	MC	Altitude	Speed	MEA	Arc Center Lat (D° M' S.ss'')	Arc Center Lon (D° M' S.ss'')	Arc Radius (NM)
AVNIS	LKV VORTAC		IF		N42 29 34.26	W120 30 25.58								
AVNIS	BTG VORTAC	215.05	TF	FB	N45 44 52.12	W122 35 29.53	335.96	318.96						
	PTERA WP	21.10	TF	FB	N46 05 39.52	W122 40 38.89	350.21	333.21	+24000	280				
	KRIEG WP	13.69	TF	FB	N46 19 12.75	W122 43 19.94	352.19	335.19						
	HAWKZ WP	20.76	TF	FB	N46 39 57.37	W122 44 13.20	358.31	341.31						
En Route Transition Data - LMT														
DB	Waypoint	Distance	Leg	FO/FB	Latitude	Longitude	TC	MC	Altitude	Speed	MEA	Arc Center Lat (D° M' S.ss'')	Arc Center Lon (D° M' S.ss'')	Arc Radius (NM)
AVNIS	LMT VORTAC		IF		N42 09 11.33	W121 43 39.08								
AVNIS	BTG VORTAC	218.89	TF	FB	N45 44 52.12	W122 35 29.53	350.45	333.45						
	PTERA WP	21.10	TF	FB	N46 05 39.52	W122 40 38.89	350.21	333.21	+24000					
	KRIEG WP	13.69	TF	FB	N46 19 12.75	W122 43 19.94	352.19	335.19						
	HAWKZ WP	20.76	TF	FB	N46 39 57.37	W122 44 13.20	358.31	341.31						
Common Route Data - CR18														
DB	Waypoint	Distance	Leg	FO/FB	Latitude	Longitude	TC	MC	Altitude	Speed	MEA	Arc Center Lat (D° M' S.ss'')	Arc Center Lon (D° M' S.ss'')	Arc Radius (NM)
	HAWKZ WP		IF		N46 39 57.37	W122 44 13.20								
	FAANZ WP	4.18	TF	FB	N46 44 07.37	W122 43 44.50	4.51	347.51						

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Runway Transition Data - RW16														
DB	Waypoint	Distance	Leg	FO/FB	Latitude	Longitude	TC	MC	Altitude	Speed	MEA	Arc Center Lat (D° M' S.ss")	Arc Center Lon (D° M' S.ss")	Arc Radius (NM)
	<i>FAANZ WP</i>		IF		N46 44 07.37	W122 43 44.50								
	<i>PIKEZ WP</i>	12.37	TF	FB	N46 56 02.10	W122 38 54.94	15.51	358.51	+14000	270				
	<i>COFAY WP</i>	10.50	TF	FB	N47 05 58.00	W122 33 57.00	18.85	1.85	+11000 -12000	260				
	<i>BREVE WP</i>	6.08	TF	FB	N47 11 30.00	W122 30 16.00	24.40	7.40	+10000 -11000					
	<i>SOCRR WP</i>	5.86	TF	FB	N47 17 14.00	W122 28 31.00	11.73	354.73	+9000	230				
	<i>NETTZ WP</i>	4.00	TF	FB	N47 21 09.00	W122 27 19.00	11.76	354.76	+8000					
	<i>KWEST WP</i>	4.09	TF	FB	N47 25 14.50	W122 27 19.17	359.97	342.97	+7000	210				
	<i>ZORNN WP</i>	3.05	TF	FB	N47 28 17.15	W122 27 21.61	359.48	342.48						
	<i>HEDDR WP</i>	2.81	TF	FB	N47 31 05.54	W122 27 19.16	.56	343.56	+6000 -6500	190				
Runway Transition Data - RW34L														
DB	Waypoint	Distance	Leg	FO/FB	Latitude	Longitude	TC	MC	Altitude	Speed	MEA	Arc Center Lat (D° M' S.ss")	Arc Center Lon (D° M' S.ss")	Arc Radius (NM)
	<i>FAANZ WP</i>		IF		N46 44 07.37	W122 43 44.50								
	<i>LIINE WP</i>	6.99	TF	FB	N46 50 23.12	W122 39 13.83	26.30	9.30	+11000 -13000	250				
	<i>FOOTT WP</i>	5.67	TF	FB	N46 55 26.85	W122 35 31.50	26.63	9.63	+10000 -12000	230				
	<i>GOALZ WP</i>	8.02	TF	FB	N47 00 40.72	W122 26 38.97	49.22	32.22	8000					
	<i>SONDR WP</i>	8.86	TF	FB	N47 08 41.68	W122 21 08.29	25.12	8.12	+6000 -6500	190				

## HAWKZ RNAV VER 4.2

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Waypoint Data									
DB	Waypoint	Arc Center	Lat-Long (DMS.S)	Latitude (Deg)	Longitude (Deg)	Latitude (D°, M.mm')	Longitude (D°, M.mm')	Latitude (D° M' S.ss'')	Longitude (D° M' S.ss'')
	<i>BREVE WP</i>		471130.00N-1223016.00W	N 47.1916667	W 122.5044444	N47 11.500	W122 30.267	N47 11 30.00	W122 30 16.00
AVNIS	BTG VORTAC		454452.12N-1223529.53W	N 45.7478111	W 122.5915361	N45 44.869	W122 35.492	N45 44 52.12	W122 35 29.53
	<i>COFAY WP</i>		470558.00N-1223357.00W	N 47.0994444	W 122.5658333	N47 05.967	W122 33.950	N47 05 58.00	W122 33 57.00
	<i>FAANZ WP</i>		464407.37N-1224344.50W	N 46.7353793	W 122.7290266	N46 44.123	W122 43.742	N46 44 07.37	W122 43 44.50
	<i>FOOMY WP</i>		462038.97N-1233551.24W	N 46.3441579	W 123.5975677	N46 20.649	W123 35.854	N46 20 38.97	W123 35 51.24
	<i>FOOTT WP</i>		465526.85N-1223531.50W	N 46.9241262	W 122.5920831	N46 55.448	W122 35.525	N46 55 26.85	W122 35 31.50
	<i>FRAPP WP</i>		462656.29N-1230400.92W	N 46.4489695	W 123.0669217	N46 26.938	W123 04.015	N46 26 56.29	W123 04 00.92
	<i>GOALZ WP</i>		470040.72N-1222638.97W	N 47.0113111	W 122.4441583	N47 00.679	W122 26.649	N47 00 40.72	W122 26 38.97
	<i>HAWKZ WP</i>		463957.37N-1224413.20W	N 46.6659367	W 122.7370004	N46 39.956	W122 44.220	N46 39 57.37	W122 44 13.20
	<i>HEDDR WP</i>		473105.54N-1222719.16W	N 47.5182056	W 122.4553222	N47 31.092	W122 27.319	N47 31 05.54	W122 27 19.16
	<i>KRIEG WP</i>		461912.75N-1224319.94W	N 46.3202071	W 122.7222045	N46 19.212	W122 43.332	N46 19 12.75	W122 43 19.94
	<i>KWEST WP</i>		472514.50N-1222719.17W	N 47.4206939	W 122.4553261	N47 25.242	W122 27.320	N47 25 14.50	W122 27 19.17
	<i>LATAY WP</i>		462428.28N-1250418.52W	N 46.4078559	W 125.0718114	N46 24.471	W125 04.309	N46 24 28.28	W125 04 18.52
	<i>LIINE WP</i>		465023.12N-1223913.83W	N 46.8397556	W 122.6538417	N46 50.385	W122 39.231	N46 50 23.12	W122 39 13.83
AVNIS	LKV VORTAC		422934.26N-1203025.58W	N 42.4928500	W 120.5071056	N42 29.571	W120 30.426	N42 29 34.26	W120 30 25.58
AVNIS	LMT VORTAC		420911.33N-1214339.08W	N 42.1531472	W 121.7275222	N42 09.189	W121 43.651	N42 09 11.33	W121 43 39.08
	<i>NETTZ WP</i>		472109.00N-1222719.00W	N 47.3525000	W 122.4552778	N47 21.150	W122 27.317	N47 21 09.00	W122 27 19.00
	<i>PIKEZ WP</i>		465602.10N-1223854.94W	N 46.9339167	W 122.6485941	N46 56.035	W122 38.916	N46 56 02.10	W122 38 54.94
	<i>PTERA WP</i>		460539.52N-1224038.89W	N 46.0943112	W 122.6774694	N46 05.659	W122 40.648	N46 05 39.52	W122 40 38.89
	<i>SOCRR WP</i>		471714.00N-1222831.00W	N 47.2872222	W 122.4752778	N47 17.233	W122 28.517	N47 17 14.00	W122 28 31.00
	<i>SONDR WP</i>		470841.68N-1222108.29W	N 47.1449111	W 122.3523028	N47 08.695	W122 21.138	N47 08 41.68	W122 21 08.29
	<i>ZORNN WP</i>		472817.15N-1222721.61W	N 47.4714312	W 122.4560017	N47 28.286	W122 27.360	N47 28 17.15	W122 27 21.61

## HAWKZ RNAV VER 4.2

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**FAA Criteria Check 8260.54A Results - LKV:CR18:RW34L**

Leg Type	Waypoint	Turn Type	Alt Restr	Spd Restr	Turn Angle at Wpt	Leg Length (nm)	Min Seg Length	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Angle	DTA1 Tailwind	DTA1 True Airspeed	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Angle	DTA2 Tailwind	DTA2 True Airspeed	
IF	LKV				0.00	0.00	0.00			41000	300						41000	300				
TF	BTG	FLY_BY			15.71	215.05	7.46			41000	300				7.46	54.11	29276	300	5.00			570.00
TF	PTERA	FLY_BY	+24000	280	2.04	21.10	7.46	7.46	54.11	29276	300	5.00		570.00			24000	280				
TF	KRIEG	FLY_BY			6.16	13.69	4.00			24000	280						18993	280				
TF	HAWKZ	FLY_BY			6.21	20.76	4.00			18983	280						13793	280				
TF	FAANZ	FLY_BY			21.78	4.18	4.00			13793	280				2.60	13.49	12748	280	10.89	72.00		350.00
TF	LIINE	FLY_BY	B11000/13000	250	0.28	6.99	4.00	2.60	13.49	12748	280	10.89	72.00	350.00			11417	250				
TF	FOOTT	FLY_BY	B10000/12000	230	22.54	5.67	4.00			11417	250				1.70	8.55	10005	230	11.27	67.00		275.00
TF	GOALZ	FLY_BY	8000		24.20	8.02	3.28	1.70	8.55	10005	230	11.27	67.00	275.00	1.58	7.36	8000	230	12.10	83.00		286.00
TF	SONDR		B6000/6500	190	0.00	8.86	2.00	1.58	7.36	8000	230	12.10	63.00	266.00			6000	190				
<b>Warnings and Errors for FAA Criteria Check Results - LKV:CR18:RW34L:</b>																						
None																						

**FAA Criteria Check 8260.54A Results - LKV:CR18:RW16**

Leg Type	Waypoint	Turn Type	Alt Restr	Spd Restr	Turn Angle at Wpt	Leg Length (nm)	Min Seg Length	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Angle	DTA1 Tailwind	DTA1 True Airspeed	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Angle	DTA2 Tailwind	DTA2 True Airspeed	
IF	LKV				0.00	0.00	0.00			41000	300						41000	300				
TF	BTG	FLY_BY			15.71	215.05	7.46			41000	300				7.46	54.11	29276	300	5.00			570.00
TF	PTERA	FLY_BY	+24000	280	2.04	21.10	7.46	7.46	54.11	29276	300	5.00		570.00			26749	280				
TF	KRIEG	FLY_BY			6.16	13.69	4.00			26749	280						23328	280				
TF	HAWKZ	FLY_BY			6.21	20.76	4.00			23328	280						18138	280				
TF	FAANZ	FLY_BY			10.99	4.18	4.00			18138	280				3.04	31.64	17092	280	5.49	81.00		376.00
TF	PIKEZ	FLY_BY	+14000	270	3.28	12.37	4.00	3.04	31.64	17092	280	5.49	81.00	376.00			14000	270				
TF	COFAY	FLY_BY	B11000/12000	260	5.49	10.50	3.00			14000	270						11520	260				
TF	BREVE	FLY_BY	B10000/11000		12.72	6.08	2.11			11520	260				2.11	18.98	10465	260	6.36	68.00		313.00
TF	SOCCR	FLY_BY	+9000	230	0.01	5.86	2.11	2.11	18.98	10465	260	6.36	68.00	313.00			9001	230				
TF	NETTZ	FLY_BY	+8000		11.80	4.00	2.00			9001	230				1.59	15.35	8023	230	5.90	63.00		267.00
TF	KWEST	FLY_BY	+7000	210	0.49	4.09	2.00	1.59	15.35	8023	230	5.90	63.00	267.00			7464	210				
TF	ZORNN	FLY_BY			1.08	3.05	2.00			7464	210						6702	210				
TF	HEDDR		B6000/6500	190	0.00	2.81	2.00			6702	210						6000	190				
<b>Warnings and Errors for FAA Criteria Check Results - LKV:CR18:RW16:</b>																						
None																						

**HAWKZ RNAV VER 4.2**

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**FAA Criteria Check 8260.54A Results - LATAY:CR18:RW34L**

Leg Type	Waypoint	Turn Type	Alt Restr	Spd Restr	Turn Angle at Wpt	Leg Length (nm)	Min Seg Length	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Angle	DTA1 Tailwind	DTA1 True Airspeed	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Angle	DTA2 Tailwind	DTA2 True Airspeed	
IF	LATAY				0.00	0.00	0.00			40341	300						40341	300				
TF	FOOMY	FLY_BY	+25000	280	20.23	61.36	8.52			40341	300				8.52	47.77	25000	280	5.00			535.52
TF	FRAPP	FLY_BY			28.01	22.92	11.73	8.52	47.77	25000	280	5.00		535.52	3.21	12.85	18511	280	14.01	84.00	84.00	385.00
TF	HAWKZ	FLY_BY			41.97	18.87	5.90	3.21	12.85	18511	280	14.01	84.00	385.00	2.69	7.02	13793	280	20.99	74.00	74.00	356.00
TF	FAANZ	FLY_BY			21.78	4.18	4.00	2.69	7.02	13793	280	20.99	74.00	356.00	1.07	5.57	12748	280	25.00	72.00	72.00	350.00
TF	LIINE	FLY_BY	B11000/13000	250	0.28	6.99	4.00	1.07	5.57	12748	280	25.00	72.00	350.00			11417	250				
TF	FOOTT	FLY_BY	B10000/12000	230	22.54	5.67	4.00			11417	250				1.70	8.55	10005	230	11.27	67.00	67.00	275.00
TF	GOALZ	FLY_BY	8000		24.20	8.02	3.28	1.70	8.55	10005	230	11.27	67.00	275.00	1.58	7.36	8000	230	12.10	63.00	63.00	266.00
TF	SONDR		B6000/6500	190	0.00	8.86	2.00	1.58	7.36	8000	230	12.10	63.00	266.00			6000	190				

**Warnings and Errors for FAA Criteria Check Results - LATAY:CR18:RW34L:**  
 Leg ending at FAANZ max bank angle exception 25.0 attempted for DTA1 resulting in minimum leg length of 4.789 nm  
 Leg ending at FAANZ max bank angle exception 25.0 applied to DTA2

**FAA Criteria Check 8260.54A Results - LATAY:CR18:RW16**

Leg Type	Waypoint	Turn Type	Alt Restr	Spd Restr	Turn Angle at Wpt	Leg Length (nm)	Min Seg Length	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Angle	DTA1 Tailwind	DTA1 True Airspeed	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Angle	DTA2 Tailwind	DTA2 True Airspeed	
IF	LATAY				0.00	0.00	0.00			40341	300						40341	300				
TF	FOOMY	FLY_BY	+25000	280	20.23	61.36	9.65			40341	300				9.65	54.11	28585	280	5.00			570.00
TF	FRAPP	FLY_BY			28.01	22.92	20.64	9.65	54.11	28585	280	5.00		570.00	10.98	44.04	22856	280	5.00			514.21
TF	HAWKZ	FLY_BY			41.97	18.87	14.15	10.98	44.04	22856	280	5.00		514.21	3.16	8.25	18138	280	20.99	83.00	83.00	383.00
TF	FAANZ	FLY_BY			10.99	4.18	4.00	3.16	8.25	18138	280	20.99	83.00	383.00	0.63	6.53	17092	280	25.00	81.00	81.00	376.00
TF	PIKEZ	FLY_BY	+14000	270	3.28	12.37	4.00	0.63	6.53	17092	280	25.00	81.00	376.00			14000	270				
TF	COFAY	FLY_BY	B11000/12000	260	5.49	10.50	3.00			14000	270						11520	260				
TF	BREVE	FLY_BY	B10000/11000		12.72	6.08	2.11			11520	260				2.11	18.98	10465	260	6.36	68.00	68.00	313.00
TF	SOCCR	FLY_BY	+9000	230	0.01	5.86	2.11	2.11	18.98	10465	260	6.36	68.00	313.00			9001	230				
TF	NETTZ	FLY_BY	+8000		11.80	4.00	2.00			9001	230				1.59	15.35	8023	230	5.90	63.00	63.00	267.00
TF	KWEST	FLY_BY	+7000	210	0.49	4.09	2.00	1.59	15.35	8023	230	5.90	63.00	267.00			7464	210				
TF	ZORNN	FLY_BY			1.08	3.05	2.00			7464	210						6702	210				
TF	HEDDR		B6000/6500	190	0.00	2.81	2.00			6702	210						6000	190				

**Warnings and Errors for FAA Criteria Check Results - LATAY:CR18:RW16:**  
 Leg ending at FAANZ max bank angle exception 25.0 attempted for DTA1 resulting in minimum leg length of 5.625 nm  
 Leg ending at FAANZ max bank angle exception 25.0 applied to DTA2

**HAWKZ RNAV VER 4.2**

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**FAA Criteria Check 8260.54A Results - LMT:CR18:RW34L**

Leg Type	Waypoint	Turn Type	Alt Restr	Spd Restr	Turn Angle at Wpt	Leg Length (nm)	Min Seg Length	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Angle	DTA1 Tailwind	DTA1 True Airspeed	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Angle	DTA2 Tailwind	DTA2 True Airspeed	
IF	LMT				0.00	0.00	0.00			41000	300						41000	300				
TF	BTG	FLY_BY			0.36	218.89	4.00			41000	300						29276	300				
TF	PTERA	FLY_BY	+24000		2.04	21.10	4.00			29276	300						24000	300				
TF	KRIEG	FLY_BY			6.16	13.69	4.00			24000	300						18983	300				
TF	HAWKZ	FLY_BY			6.21	20.76	4.00			18983	300						13793	300				
TF	FAANZ	FLY_BY			21.78	4.18	4.00			13793	300				2.91	15.14	12748	300	10.89	72.00	375.00	
TF	LIINE	FLY_BY	B11000/13000	250	0.28	6.99	4.00	2.91	15.14	12748	300	10.89	72.00	375.00			11417	250				
TF	FOOTT	FLY_BY	B10000/12000	230	22.54	5.67	4.00			11417	250				1.70	8.55	10005	230	11.27	67.00	275.00	
TF	GOALZ	FLY_BY	8000		24.20	8.02	3.28	1.70	8.55	10005	230	11.27	67.00	275.00	1.58	7.36	8000	230	12.10	63.00	266.00	
TF	SONDR		B6000/6500	190	0.00	8.86	2.00	1.58	7.36	8000	230	12.10	63.00	266.00			6000	190				
<b>Warnings and Errors for FAA Criteria Check Results - LMT:CR18:RW34L:</b>																						
None																						

**FAA Criteria Check 8260.54A Results - LMT:CR18:RW16**

Leg Type	Waypoint	Turn Type	Alt Restr	Spd Restr	Turn Angle at Wpt	Leg Length (nm)	Min Seg Length	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Angle	DTA1 Tailwind	DTA1 True Airspeed	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Angle	DTA2 Tailwind	DTA2 True Airspeed	
IF	LMT				0.00	0.00	0.00			41000	300						41000	300				
TF	BTG	FLY_BY			0.36	218.89	4.00			41000	300						29276	300				
TF	PTERA	FLY_BY	+24000		2.04	21.10	4.00			29276	300						26749	300				
TF	KRIEG	FLY_BY			6.16	13.69	4.00			26749	300						23328	300				
TF	HAWKZ	FLY_BY			6.21	20.76	4.00			23328	300						18138	300				
TF	FAANZ	FLY_BY			10.99	4.18	4.00			18138	300				3.41	35.49	17092	300	5.49	81.00	403.00	
TF	PIKEZ	FLY_BY	+14000	270	3.28	12.37	4.00	3.41	35.49	17092	300	5.49	81.00	403.00			14000	270				
TF	COFAY	FLY_BY	B11000/12000	280	5.49	10.50	3.00			14000	270						11520	280				
TF	BREVE	FLY_BY	B10000/11000		12.72	6.08	2.11			11520	260				2.11	18.98	10465	260	6.36	68.00	313.00	
TF	SOCRR	FLY_BY	+9000	230	0.01	5.86	2.11	2.11	18.98	10465	260	6.36	68.00	313.00			9001	230				
TF	NETTZ	FLY_BY	+8000		11.80	4.00	2.00			9001	230				1.59	15.35	8023	230	5.90	63.00	267.00	
TF	KWEST	FLY_BY	+7000	210	0.49	4.09	2.00	1.59	15.35	8023	230	5.90	63.00	267.00			7464	210				
TF	ZORNN	FLY_BY			1.08	3.05	2.00			7464	210						6702	210				
TF	HEDDR		B6000/6500	190	0.00	2.81	2.00			6702	210						6000	190				
<b>Warnings and Errors for FAA Criteria Check Results - LMT:CR18:RW16:</b>																						
None																						

**HAWKZ RNAV VER 4.2**

Created : Mon Apr 30 11:39:41 EDT 2012 TARGETS 4.8 (January 7, 2012)

No TERPS Surfaces included.

Database Effective Dates

Database	Date
UddfObstacle	06/01/2007
NFDC	12/15/2011
IFP_OFFLINE	N/A
AVNIS	04/30/2012
NACO	01/12/2012
DOF	12/15/2011

HAWKZ RNAV VER 4.2

Created : Mon Apr 30 11:39:41 EDT 2012 TARGETS 4.8 (January 7, 2012)

**Notes:**

Note: Turbojet aircraft descend via mach number until transition to 280 KIAS. Maintain 280 KIAS until slowed on STAR.  
Note: GPS Required  
Note: RADAR Required.  
Note: RNAV 1.  
Note: Chart not to scale.

**HAWKZ RNAV VER 4.2**

Created : Mon Apr 30 11:39:41 EDT 2012 TARGETS 4.8 (January 7, 2012)

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# MARNR RNAV 4.5

## Point Of Contact

ATC Facility Name - Seattle ARTCC

POC's Name - Barbara Ell

Telephone Number - 253-351-3512

FAX Number -

Email Address - [barbara.ell@faa.gov](mailto:barbara.ell@faa.gov)

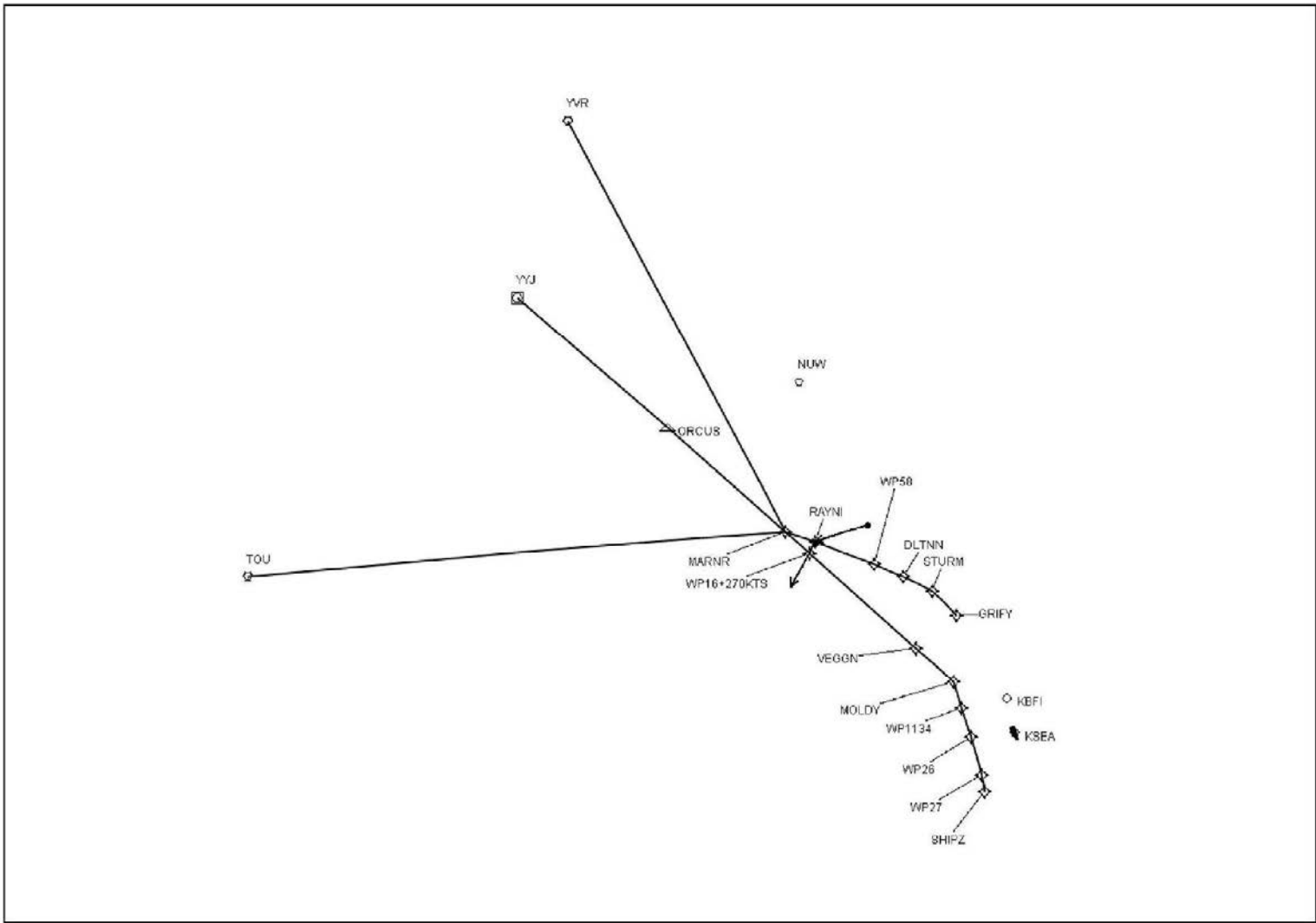
## TARGETS Distribution Package

Version: TARGETS 4.8 (January 7, 2012)  
Date: Mon Apr 30 10:29:04 EDT 2012

## MARNR RNAV 4.5

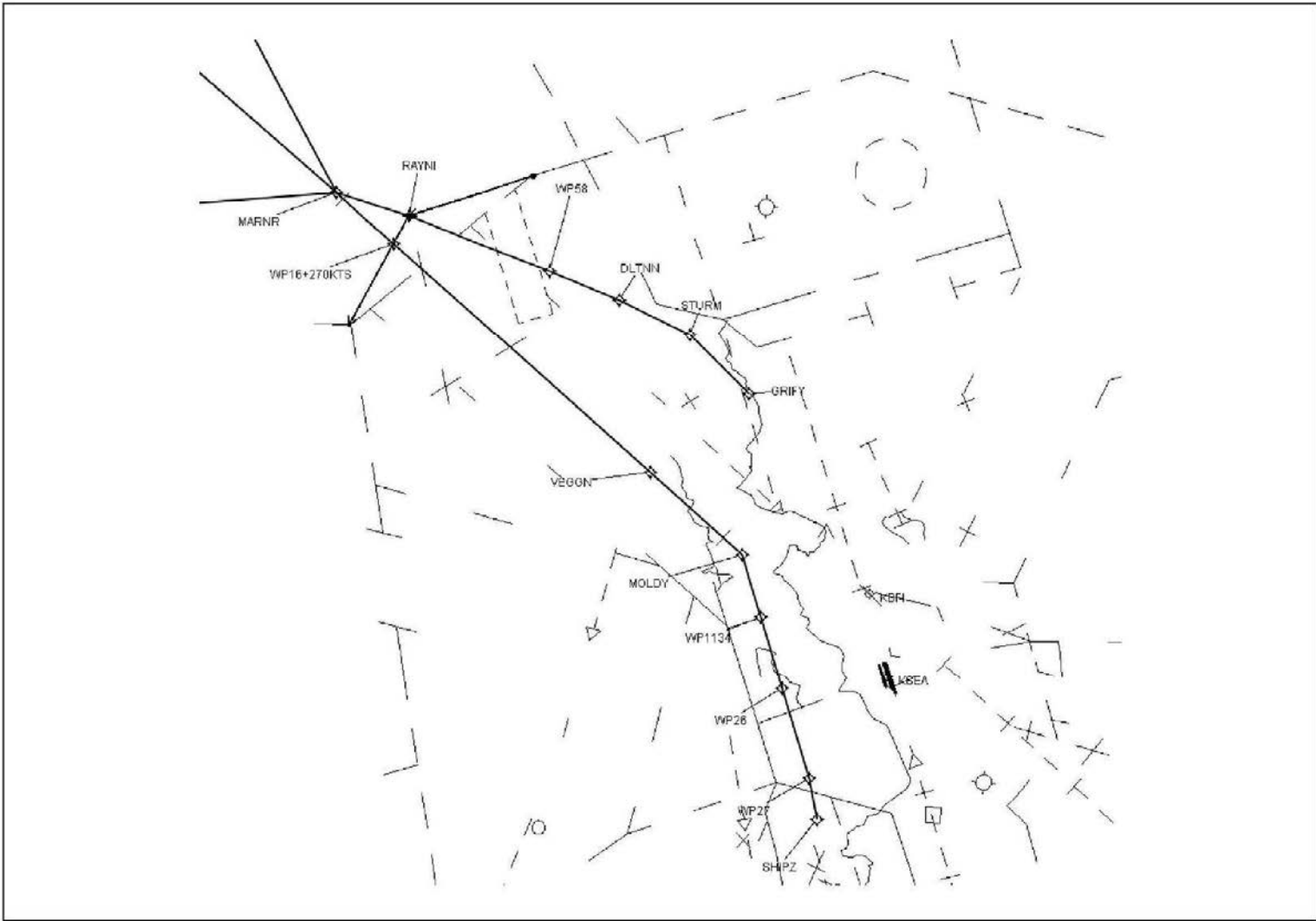
Created : Mon Apr 30 10:29:04 EDT 2012 TARGETS 4.8 (January 7, 2012)

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**MARNR RNAV 4.5**

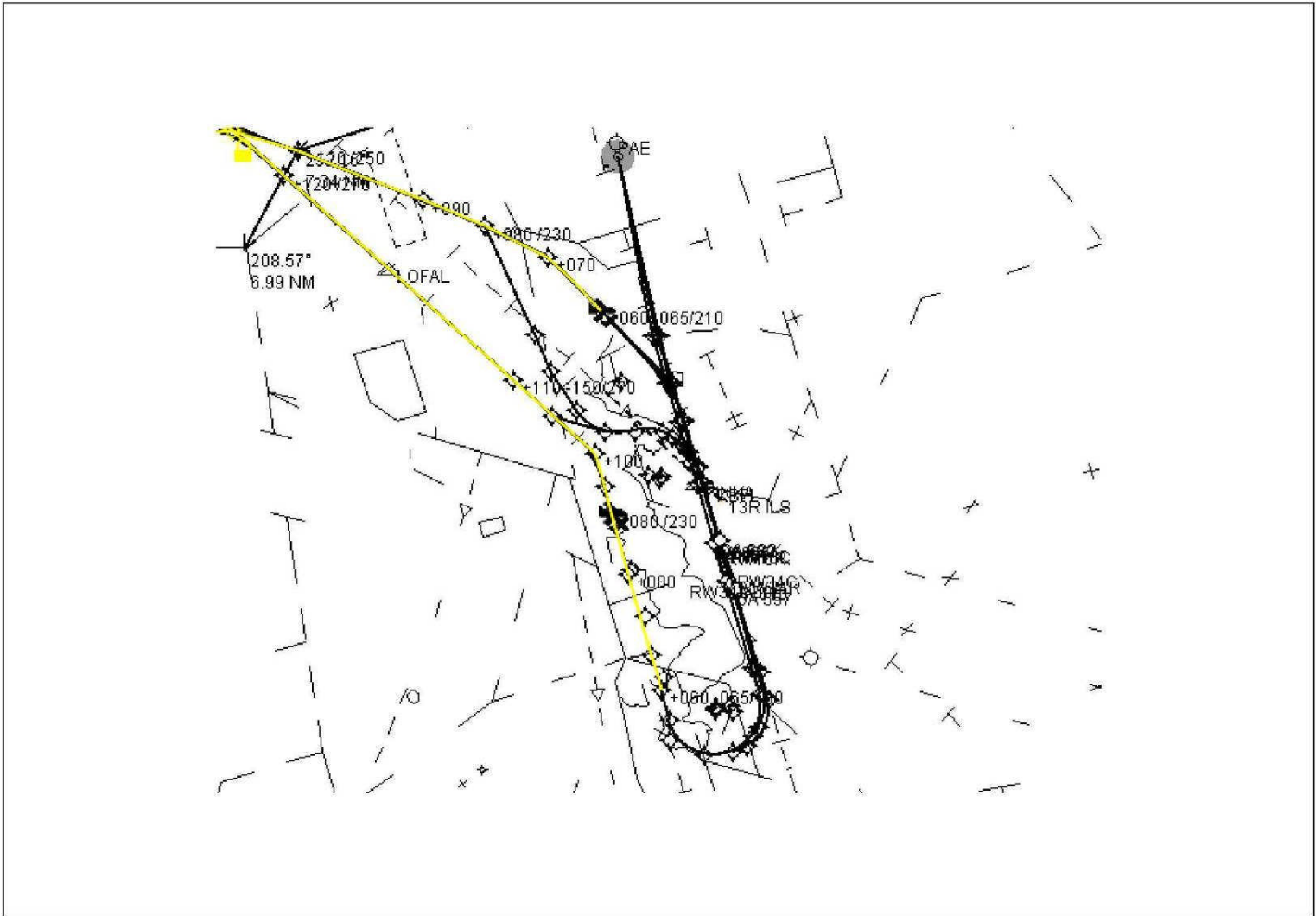
Created : Mon Apr 30 10:29:04 EDT 2012 TARGETS 4.8 (January 7, 2012)



**MARNR RNAV 4.5**

Created : Mon Apr 30 10:29:04 EDT 2012 TARGETS 4.8 (January 7, 2012)





**MARNR RNAV 4.5**

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En Route Transition Data - TOU														
DB	Waypoint	Distance	Leg	FO/FB	Latitude	Longitude	TC	MC	Altitude	Speed	MEA	Arc Center Lat (D° M' S.ss'')	Arc Center Lon (D° M' S.ss'')	Arc Radius (NM)
AVNIS	TOU VORTAC		IF		N48 17 59.64	W124 37 37.36								
	<i>MARNR WP</i>	73.07	TF	FB	N48 02 19.92	W122 50 59.67	101.72	84.72						
En Route Transition Data - YVR														
DB	Waypoint	Distance	Leg	FO/FB	Latitude	Longitude	TC	MC	Altitude	Speed	MEA	Arc Center Lat (D° M' S.ss'')	Arc Center Lon (D° M' S.ss'')	Arc Radius (NM)
AVNIS	YVR VORTAC		IF		N49 04 38.38	W123 08 56.72								
	<i>MARNR WP</i>	63.48	TF	FB	N48 02 19.92	W122 50 59.67	169.06	152.06						
En Route Transition Data - YYJ														
DB	Waypoint	Distance	Leg	FO/FB	Latitude	Longitude	TC	MC	Altitude	Speed	MEA	Arc Center Lat (D° M' S.ss'')	Arc Center Lon (D° M' S.ss'')	Arc Radius (NM)
AVNIS	YYJ VOR/DME		IF		N48 43 37.35	W123 29 03.69								
AVNIS	ORCUS WP	27.00	TF	FB	N48 20 39.54	W123 07 44.01	148.20	131.20	+17000	280				
	<i>MARNR WP</i>	21.49	TF	FB	N48 02 19.92	W122 50 59.67	148.48	131.48						
Runway Transition Data - RW16R														
DB	Waypoint	Distance	Leg	FO/FB	Latitude	Longitude	TC	MC	Altitude	Speed	MEA	Arc Center Lat (D° M' S.ss'')	Arc Center Lon (D° M' S.ss'')	Arc Radius (NM)
	<i>MARNR WP</i>		IF		N48 02 19.92	W122 50 59.67								
	<i>RAYNI WP</i>	4.29	TF	FB	N47 59 52.64	W122 45 45.50	124.91	107.91	+12000	250				
	<i>GRYND WP</i>	8.51	TF	FB	N47 54 34.39	W122 35 51.45	128.51	111.51	+9000					
	<i>DLTNN WP</i>	4.28	TF	FB	N47 51 50.71	W122 30 57.97	129.63	112.63	+8000	230				
	<i>STURM WP</i>	4.43	TF	FB	N47 48 49.17	W122 26 09.60	133.05	116.05	+7000					
	<i>GRIFY WP</i>	4.73	TF	FB	N47 44 38.41	W122 22 52.33	152.04	135.04	+6000 -6500	210				

## MARNR RNAV 4.5

Created : Mon Apr 30 10:29:04 EDT 2012 TARGETS 4.8 (January 7, 2012)

Runway Transition Data - RW34L														
DB	Waypoint	Distance	Leg	FO/FB	Latitude	Longitude	TC	MC	Altitude	Speed	MEA	Arc Center Lat (D° M' S.ss")	Arc Center Lon (D° M' S.ss")	Arc Radius (NM)
	<i>MARNR WP</i>		IF		N48 02 19.92	W122 50 59.67								
	<i>QURON WP</i>	4.33	TF	FB	N47 58 37.90	W122 47 38.94	148.73	131.73	+12000	+270				
	<i>VEGGN WP</i>	19.44	TF	FB	N47 42 00.70	W122 32 41.62	148.70	131.70	+11000 -15000	+270				
	<i>MOLDY WP</i>	7.00	TF	FB	N47 36 01.13	W122 27 21.09	148.90	131.90	+10000					
	<i>KRIZZ WP</i>	3.91	TF	FB	N47 32 06.74	W122 27 29.37	181.37	164.37	+8000	230				
	<i>WUBET WP</i>	4.00	TF	FB	N47 28 07.16	W122 27 37.09	181.25	164.25	+8000					
	<i>PTSUE WP</i>	5.32	TF	FB	N47 22 48.26	W122 27 47.67	181.29	164.29						
	<i>SHIPZ WP</i>	2.34	TF	FB	N47 20 27.83	W122 27 52.34	181.29	164.29	+6000 -6500	190				
Waypoint Data														
DB	Waypoint	Arc Center	Lat-Long (DMS.S)	Latitude (Deg)	Longitude (Deg)	Latitude (D°, M.mm')	Longitude (D°, M.mm')	Latitude (D° M' S.ss")	Longitude (D° M' S.ss")					
	<i>DLTNN WP</i>		475150.71N-1223057.97W	N 47.8640870	W 122.5161020	N47 51.845	W122 30.966	N47 51 50.71	W122 30 57.97					
	<i>GRIFY WP</i>		474436.41N-1222252.33W	N 47.7440028	W 122.3612028	N47 44.640	W122 22.672	N47 44 36.41	W122 22 52.33					
	<i>GRYND WP</i>		475434.39N-1223551.45W	N 47.9095540	W 122.5976258	N47 54.573	W122 35.858	N47 54 34.39	W122 35 51.45					
	<i>KRIZZ WP</i>		473206.74N-1222729.37W	N 47.5352068	W 122.4581583	N47 32.112	W122 27.489	N47 32 06.74	W122 27 29.37					
	<i>MARNR WP</i>		480219.92N-1225059.67W	N 48.0388666	W 122.8499076	N48 02.332	W122 50.994	N48 02 19.92	W122 50 59.67					
	<i>MOLDY WP</i>		473601.13N-1222721.09W	N 47.6003150	W 122.4558583	N47 36.019	W122 27.352	N47 36 01.13	W122 27 21.09					
AVNIS	<i>ORCUS WP</i>		482039.54N-1230744.01W	N 48.3443167	W 123.1288917	N48 20.659	W123 07.733	N48 20 39.54	W123 07 44.01					
	<i>PTSUE WP</i>		472248.26N-1222747.67W	N 47.3800714	W 122.4632430	N47 22.804	W122 27.795	N47 22 48.26	W122 27 47.67					
	<i>QURON WP</i>		475837.90N-1224738.94W	N 47.9771951	W 122.7941503	N47 58.632	W122 47.649	N47 58 37.90	W122 47 38.94					
	<i>RAYNI WP</i>		475952.64N-1224545.50W	N 47.9979548	W 122.7626390	N47 59.877	W122 45.758	N47 59 52.64	W122 45 45.50					
	<i>SHIPZ WP</i>		472027.83N-1222752.34W	N 47.3410639	W 122.4645389	N47 20.464	W122 27.872	N47 20 27.83	W122 27 52.34					
	<i>STURM WP</i>		474849.17N-1222609.60W	N 47.8136597	W 122.4360004	N47 48.820	W122 26.160	N47 48 49.17	W122 26 09.60					
AVNIS	<i>TOU VORTAC</i>		481759.64N-1243737.36W	N 48.2999000	W 124.6270444	N48 17.994	W124 37.623	N48 17 59.64	W124 37 37.36					
	<i>VEGGN WP</i>		474200.70N-1223241.62W	N 47.7001947	W 122.5448946	N47 42.012	W122 32.694	N47 42 00.70	W122 32 41.62					
	<i>WUBET WP</i>		472807.16N-1222737.09W	N 47.4686559	W 122.4603018	N47 28.119	W122 27.618	N47 28 07.16	W122 27 37.09					
AVNIS	<i>YVR VORTAC</i>		490438.38N-1230856.72W	N 49.0773278	W 123.1490869	N49 04.640	W123 08.945	N49 04 36.36	W123 08 56.72					
AVNIS	<i>YYJ VOR/DME</i>		484337.35N-1232903.69W	N 48.7270417	W 123.4843583	N48 43.623	W123 29.061	N48 43 37.35	W123 29 03.69					

## MARNR RNAV 4.5

Created : Mon Apr 30 10:29:04 EDT 2012 TARGETS 4.8 (January 7, 2012)

**FAA Criteria Check 8260.54A Results - YVR:RW16R**

Leg Type	Waypoint	Turn Type	Alt Restr	Spd Restr	Turn Angle at Wpt	Leg Length (nm)	Min Seg Length	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Angle	DTA1 Tailwind	DTA1 True Airspeed	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Angle	DTA2 Tailwind	DTA2 True Airspeed	
IF	YVR				0.00	0.00	0.00			28943	300						28943	300				
TF	MARNR	FLY_BY			44.37	63.48	4.00			28943	300				2.95	7.24	13072	300	22.19	73.00	377.00	
TF	RAYNI	FLY_BY	+12000	250	3.53	4.29	4.00	2.95	7.24	13072	300	22.19	73.00	377.00			12000	250				
TF	GRYND	FLY_BY	+9000		1.00	8.51	3.00			12000	250						9069	250				
TF	DLTNN	FLY_BY	+8000	230	3.35	4.28	2.00			9069	250						8108	230				
TF	STURM	FLY_BY	+7000		18.94	4.43	2.00			8108	230				1.53	9.17	7183	230	9.47	61.00	263.00	
TF	GRIFY		B6000/6 500	210	0.00	4.73	2.00	1.53	9.17	7183	230	9.47	61.00	263.00			6000	210				
<b>Warnings and Errors for FAA Criteria Check Results - YVR:RW16R:</b>																						
None																						

**FAA Criteria Check 8260.54A Results - YVR:RW34L**

Leg Type	Waypoint	Turn Type	Alt Restr	Spd Restr	Turn Angle at Wpt	Leg Length (nm)	Min Seg Length	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Angle	DTA1 Tailwind	DTA1 True Airspeed	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Angle	DTA2 Tailwind	DTA2 True Airspeed	
IF	YVR				0.00	0.00	0.00			28953	300						28953	300				
TF	MARNR	FLY_BY			20.55	63.48	4.00			28953	300				2.95	16.28	13083	300	10.28	73.00	377.00	
TF	QURON	FLY_BY	+12000	+270	0.08	4.33	4.00	2.95	16.28	13083	300	10.28	73.00	377.00			13083	270				
TF	VEGGN	FLY_BY	B11000/ 15000	+270	0.02	19.44	3.00			13083	270						11750	270				
TF	MOLDY	FLY_BY	+10000		32.40	7.00	2.00			11750	270				1.95	6.72	10000	250	16.20	67.00	299.00	
TF	KRIZZ	FLY_BY	+8000	230	0.12	3.91	2.00	1.95	6.72	10000	250	16.20	67.00	299.00			8999	230				
TF	WUBET	FLY_BY	+8000		0.04	4.00	2.00			8999	230						8000	230				
TF	PTSUE	FLY_BY			0.00	5.32	2.00			8000	230						6586	230				
TF	SHIPZ		B6000/6 500	190	0.00	2.34	2.00			6586	230						6000	190				
<b>Warnings and Errors for FAA Criteria Check Results - YVR:RW34L:</b>																						
None																						

**FAA Criteria Check 8260.54A Results - TOU:RW16R**

Leg Type	Waypoint	Turn Type	Alt Restr	Spd Restr	Turn Angle at Wpt	Leg Length (nm)	Min Seg Length	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Angle	DTA1 Tailwind	DTA1 True Airspeed	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Angle	DTA2 Tailwind	DTA2 True Airspeed	
IF	TOU				0.00	0.00	0.00			31340	300						31340	300				
TF	MARNR	FLY_BY			21.87	73.07	4.00			31340	300				2.95	15.28	13072	300	10.93	73.00	377.00	
TF	RAYNI	FLY_BY	+12000	250	3.53	4.29	4.00	2.95	15.28	13072	300	10.93	73.00	377.00			12000	250				
TF	GRYND	FLY_BY	+9000		1.00	8.51	3.00			12000	250						9069	250				
TF	DLTNN	FLY_BY	+8000	230	3.35	4.28	2.00			9069	250						8108	230				
TF	STURM	FLY_BY	+7000		18.94	4.43	2.00			8108	230				1.53	9.17	7183	230	9.47	61.00	263.00	
TF	GRIFY		B6000/6 500	210	0.00	4.73	2.00	1.53	9.17	7183	230	9.47	61.00	263.00			6000	210				

**MARNR RNAV 4.5**

Warnings and Errors for FAA Criteria Check Results - TOU:RW16R:																					
None																					

**FAA Criteria Check 8260.54A Results - TOU:RW34L**

Leg Type	Waypoint	Turn Type	Alt Restr	Spd Restr	Turn Angle at Wpt	Leg Length (nm)	Min Seg Length	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Angle	DTA1 Tailwind	DTA1 True Airspeed	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Angle	DTA2 Tailwind	DTA2 True Airspeed
IF	TOU				0.00	0.00	0.00			31351	300						31351	300			
TF	MARNR	FLY_BY			45.69	73.07	4.00			31351	300				2.95	7.00	13083	300	22.84	73.00	377.00
TF	QURON	FLY_BY	+12000	+270	0.08	4.33	4.00	2.95	7.00	13083	300	22.84	73.00	377.00			13083	270			
TF	VEGGN	FLY_BY	B11000/ 15000	+270	0.02	19.44	3.00			13083	270						11750	270			
TF	MOLDY	FLY_BY	+10000		32.40	7.00	2.00			11750	270				1.95	6.72	10000	250	16.20	67.00	299.00
TF	KRIZZ	FLY_BY	+8000	230	0.12	3.91	2.00	1.95	6.72	10000	250	16.20	67.00	299.00			8999	230			
TF	WUBET	FLY_BY	+8000		0.04	4.00	2.00			8999	230						8000	230			
TF	PTSUE	FLY_BY			0.00	5.32	2.00			8000	230						6586	230			
TF	SHIPZ		B6000/6 500	190	0.00	2.34	2.00			6566	230						6000	190			

Warnings and Errors for FAA Criteria Check Results - TOU:RW34L:																					
None																					

**FAA Criteria Check 8260.54A Results - YYJ:RW16R**

Leg Type	Waypoint	Turn Type	Alt Restr	Spd Restr	Turn Angle at Wpt	Leg Length (nm)	Min Seg Length	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Angle	DTA1 Tailwind	DTA1 True Airspeed	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Angle	DTA2 Tailwind	DTA2 True Airspeed
IF	YYJ				0.00	0.00	0.00			23750	300						23750	300			
TF	ORCUS	FLY_BY	+17000	280	0.02	27.00	4.00			23750	300						18444	280			
TF	MARNR	FLY_BY			23.78	21.49	4.00			18444	280				2.63	12.50	13072	280	11.89	73.00	352.00
TF	RAYNI	FLY_BY	+12000	250	3.53	4.29	4.00	2.63	12.50	13072	280	11.89	73.00	352.00			12000	250			
TF	GRYND	FLY_BY	+9000		1.00	8.51	3.00			12000	250						9069	250			
TF	DLTNN	FLY_BY	+8000	230	3.35	4.28	2.00			9069	250						8108	230			
TF	STURM	FLY_BY	+7000		18.94	4.43	2.00			8108	230				1.53	9.17	7183	230	9.47	61.00	263.00
TF	GRIFY		B6000/6 500	210	0.00	4.73	2.00	1.53	9.17	7183	230	9.47	61.00	263.00			6000	210			

Warnings and Errors for FAA Criteria Check Results - YYJ:RW16R:																					
None																					

**MARNR RNAV 4.5**

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**FAA Criteria Check 8260.54A Results - YYJ:RW34L**

Leg Type	Waypoint	Turn Type	Alt Restr	Spd Restr	Turn Angle at Wpt	Leg Length (nm)	Min Seg Length	DTA1	DTA1 Turn Rad	DTA1 Turn Alt	DTA1 Turn Spd	DTA1 Bank Angle	DTA1 Tailwind	DTA1 True Airspeed	DTA2	DTA2 Turn Rad	DTA2 Turn Alt	DTA2 Turn Spd	DTA2 Bank Angle	DTA2 Tailwind	DTA2 True Airspeed	
IF	YYJ				0.00	0.00	0.00			23750	300						23750	300				
TF	ORCUS	FLY_BY	+17000	280	0.02	27.00	4.00			23750	300						18455	280				
TF	MARNR	FLY_BY			0.04	21.49	4.00			18455	280						13083	280				
TF	QURON	FLY_BY	+12000	+270	0.08	4.33	4.00			13083	280						13083	270				
TF	VEGGN	FLY_BY	B11000/ 15000	+270	0.02	19.44	3.00			13083	270						11750	270				
TF	MOLDY	FLY_BY	+10000		32.40	7.00	2.00			11750	270				1.95	6.72	10000	250	16.20	67.00	299.00	
TF	KRIZZ	FLY_BY	+8000	230	0.12	3.91	2.00	1.95	6.72	10000	250	16.20	67.00	299.00			8999	230				
TF	WUBET	FLY_BY	+8000		0.04	4.00	2.00			8999	230						8000	230				
TF	PTSUE	FLY_BY			0.00	5.32	2.00			8000	230						6586	230				
TF	SHIPZ		B6000/6 500	190	0.00	2.34	2.00			6586	230						6000	190				
<b>Warnings and Errors for FAA Criteria Check Results - YYJ:RW34L:</b>																						
None																						

No TERPS Surfaces included.

**Database Effective Dates**

Database	Date
UddfObstacle	06/01/2007
NFDC	12/15/2011
IFP_OFFLINE	N/A
AVNIS	04/30/2012
NACO	01/12/2012
DOF	12/15/2011

**MARNR RNAV 4.5**

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**Notes:**

**MARNR RNAV 4.5**

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